

HIGH POWER WAVEGUIDE LASER

ABSTRACT OF THE INVENTION

The above discussed and other drawbacks and deficiencies of the prior art are overcome or alleviated by a laser of the present invention. In accordance with the present invention the laser comprises a housing defining a plurality of compartments therein, a folded waveguide disposed within the housing, the folded waveguide defining a plurality of channels having a substantially rectangular cross section for guiding a laser beam, a plurality of electrodes disposed in the plurality of compartments and juxtaposed along opposite surfaces of the waveguide and at least one power supply connected to the plurality of electrodes. The channels having a prescribed width to height ratio for a prescribed channel length for a given Fresnel number. At least one optical housing is provided. The optical housing is mounted to the laser housing, the optical housing including a plurality of beam turning mechanisms disposed within a plurality of compartments accessible for adjusting the beam turning mechanisms. The channels are disposed within the waveguide so as to subtend a prescribed angular orientation between adjacent channels. Inductors are provided for suppressing the capacitance of the electrodes.